

## SEQUENCE LISTING

## (1) GENERAL INFORMATION:

(i) APPLICANT: Bergmann, Johanna &  
Preddie, Rick

(ii) TITLE OF INVENTION: AGENTS FOR PRESYMPTOMATIC DIAGNOSIS  
AND THERAPEUTIC TARGETING IN HUMAN  
ALZHEIMER'S DISEASE AND DOWN  
SYNDROME

(iii) NUMBER OF SEQUENCES:

(iv) CORRESPONDENCE ADDRESS:

(A) ADDRESSEE: DR. J. BERGMANN

(B) STREET: MÖRIKESTR. 22

(C) CITY: HAMBURG

(D) STATE:

(E) COUNTRY: GERMANY

(F) ZIP: 22587

(v) COMPUTER READABLE FORM:

(A) MEDIUM TYPE: Floppy disk

(B) COMPUTER: IBM PC compatible

(C) OPERATING SYSTEM: PC-DOS/MS-DOS

(D) SOFTWARE: PatentIn Release #1.0;

Version #125

(vi) CURRENT APPLICATION DATA:

(A) APPLICATION NUMBER: PCT

(B) FILING DATE:

(C) CLASSIFICATION:

(viii) ATTORNEY/AGENT INFORMATION:

(A) NAME: NONE

(B) REGISTRATION NUMBER:

(ix) TELECOMMUNICATION INFORMATION:

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(2) INFORMATION FOR SEQ ID NO:1:  
1:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 240 base pairs
- (B) TYPE: nucleic acid
- (D) TOPOLOGY: linear
- (C) STRANDNESS: single

(ii) MOLECULE TYPE: cDNA

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: Homo sapiens

(vii) IMMEDIATE SOURCE:

- (B) CLONE: alzas

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1:

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ATGGATGCAG AATTCCGACA TGACTCAGGA TATGAAGTTC ATCATCAAA 50
AATTGGTGTT CTTTGCAGAA GATGTGGGTT CAAACAAAGG TGCAATCATT 100
GGACTCATGG TGGGCGGTGT TGTCATAGCG ACAGTGATCG TCATCACCTT 150
GGTGATGCTG AAGAAGAAAC AGTACACATC CATTATCAT GGTGTGGTGG 200
AGGTAGGTAA ACTTGACTGC ATGTTTCCAA GTGGGAATTA A 240

```

(2) INFORMATION FOR SEQ ID NO:2:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 79 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: Homo sapiens

(vii) IMMEDIATE SOURCE:

- (B) CLONE: ALZASp

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:2

Met Asp Ala Glu Phe Arg His Asp Ser Gly Tyr Glu Val His His  
           5                  10                  15

Gln Lys Leu Val Phe Phe Ala Glu Asp Val Gly Ser Asn Lys Gly  
           20                  25                  30

Ala Ile Ile Gly Leu Met Val Gly Gly Val Val Ile Ala Thr Val  
           35                  40                  45

Ile Val Ile Thr Leu Val Met Leu Lys Lys Lys Gln Tyr Thr Ser  
           50                  55                  60

Ile His His Gly Val Val Glu Val Gly Lys Leu Asp Cys Met Phe  
           65                  70                  75

Pro Ser Gly Asn

## (2) INFORMATION FOR SEQ ID NO:3:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 39 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(iii) HYPOTHETICAL: yes

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Homo sapiens

(vii) IMMEDIATE SOURCE:

(B) CLONE: ALZASp

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:3:

Met Gln Asn Ser Asp Met Thr Gln Asp Met Lys Phe Ile Ile Lys  
           5                  10                  15

Asp Trp Cys Ser Leu Glu Lys Met Trp Val Gln Thr Lys Val Gln  
           20                  25                  30

Ser Leu Asp Ser Trp Trp Ala Val Leu Ser

35

40

**(2) INFORMATION FOR SEQ ID NO:4:****(i) SEQUENCE CHARACTERISTICS:****(A) LENGTH:** 20 amino acids**(B) TYPE:** amino acid**(D) TOPOLOGY:** linear**(ii) MOLECULE TYPE:** protein**(iii) HYPOTHETICAL:** Yes**(vi) ORIGINAL SOURCE:****(A) ORGANISM:** Homo sapiens**(vii) IMMEDIATE SOURCE:****(B) CLONE:** ALZASp**(xi) SEQUENCE DESCRIPTION: SEQ ID NO:4:**

Met Gln Asn Ser Asp Met Thr Gln Asp Met Lys Phe Ile Ile Lys

5

10

15

Asn Trp Tyr Val Lys

20

**(2) INFORMATION FOR SEQ ID NO:5:****(i) SEQUENCE CHARACTERISTICS:****(A) LENGTH:** 156 base pairs**(B) TYPE:** nucleic acid**(D) TOPOLOGY:** linear**(C) STRANDNESS:** single**(ii) MOLECULE TYPE:** cDNA**(iii) HYPOTHETICAL:** NO**(iv) ANTI-SENSE:** NO**(vi) ORIGINAL SOURCE:****(A) ORGANISM:** Homo sapiens**(vii) IMMEDIATE SOURCE:**

(B) CLONE:alzas1

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:5:

ATGGATGCAG AATTCCGACA TGA CTCAGGA TATGAAGTTC ATCATCAAAA 50  
 ATTGGTACGT AAAATAATTT ACCTCTTTCC ACTACTGTTT GTCTTGCCAA 100  
 ATGACCTATT AACTCTGGTT CATCCTGTGC TAGAAATCAA ATTAAGGAAA 150  
 AGATAA 156

(2) INFORMATION FOR SEQ ID NO:6:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 51 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Homo sapiens

(vii) IMMEDIATE SOURCE:

(B) CLONE: ALZAS1

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:6:

Met Asp Ala GLu Phe Arg His Asp Ser Gly Tyr Glu Val His His  
           5              10              15

Gln Lys Leu Val Arg Lys Ile Ile Tyr Leu Phe Pro Leu Leu Phe  
           20              25              30

Val Leu Pro Asn Asp Leu Leu Thr Leu Val His Pro Val Leu Glu  
           35              40              45

Ile Lys Leu Arg Lys Arg  
           50

(2) INFORMATION FOR SEQ ID NO:7:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 79 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: genomic DNA

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Homo sapiens

(vii) IMMEDIATE SOURCE:

(B) CLONE: PALZ1

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:7:

TTGATAATTA AATGTTATAG CATGGACACT GACATTTACA TTTTACTT 50  
ATGTTTTTGG TTTTAAATG ACTCTGCAT 79

(2) INFORMATION FOR SEQ ID NO:8:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 37 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Genomic DNA

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Homo sapiens

(vii) IMMEDIATE SOURCE:

(B) CLONE: PALZ2

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:8:

ATTATTATT GAATAATGAA ATTCATCAGA ACAATTA 37

**(2) INFORMATION FOR SEQ ID NO:9:****(i) SEQUENCE CHARACTERISTICS:**

- (A) LENGTH: 68 base pairs
- (B) TYPE: nucleic acid
- (D) TOPOLOGY: linear
- (C) STRANDNESS: single

**(ii) MOLECULE TYPE:** genomic DNA

**(iii) HYPOTHETICAL:** NO

**(iv) ANTI-SENSE:** NO

**(vi) ORIGINAL SOURCE:**

(A) ORGANISM: Homo sapiens

**(vii) IMMEDIATE SOURCE:**

(B) CLONE: PALZ3

**(xi) SEQUENCE DESCRIPTION:** SEQ ID NO:9:

GCAATTTATA GAAAAGGAAG AGTTCGTAGG TTATAAATTC TGTTAGTTGC 60  
TAAGAAGCAT TTTTAAAA

68

**(2) INFORMATION FOR SEQ ID NO:10:****(i) SEQUENCE CHARACTERISTICS:**

- (A) LENGTH: 59 base pairs
- (B) TYPE: nucleic acid
- (D) TOPOLOGY: linear
- (C) STRANDNESS: single

**(ii) MOLECULE TYPE:** genomic DNA

**(iii) HYPOTHETICAL:** NO

**(iv) ANTI-SENSE:** NO

**(vi) ORIGINAL SOURCE:**

(A) ORGANISM: Homo sapiens

**(vii) IMMEDIATE SOURCE:**

(B) CLONE: PALZ4

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:10:

ATGCTCATTT TTAAAGGCTT TTATTATTAT TTCTGAAGTA ATGAGTGCAC 50  
 ATGGAAAAA 59

## (2) INFORMATION FOR SEQ ID NO:11:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 38 base pairs

(B) TYPE: nucleic acid

(D) TOPOLOGY: linear

(C) STRANDNESS: single

## (ii) MOLECULE TYPE: genomic DNA

## (iii) HYPOTHETICAL: NO

## (iv) ANTI-SENSE: NO

## (vi) ORIGINAL SOURCE:

(A) ORGANISM: Homo sapiens

## (vii) IMMEDIATE SOURCE:

(B) CLONE: PALZ5

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:11:

TATTCCAGGA ACAAATCCTT GCCAACCTCT CAACCAGG 38

## (2) INFORMATION FOR SEQ ID NO:12:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 26 base pairs

(B) TYPE: nucleic acid

(D) TOPOLOGY: linear

(C) STRANDNESS: single

## (ii) MOLECULE TYPE: genomic DNA

## (iii) HYPOTHETICAL: NO

## (iv) ANTI-SENSE: NO

## (vi) ORIGINAL SOURCE:

(A) ORGANISM: Homo sapiens



(vii) IMMEDIATE SOURCE:

(B) CLONE:PALZ6

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:12:

TAGCATGTAT TTAAATGCAG CAGAAG 26

(2) INFORMATION FOR SEQ ID NO:13:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 56 base pairs

(B) TYPE: nucleic acid

(D) TOPOLOGY: linear

(C) STRANDNESS: single

(ii) MOLECULE TYPE: genomic DNA

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Homo sapiens

(vii) IMMEDIATE SOURCE:

(B) CLONE:PALZ7

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:13:

GAAGGTTTAA ATATAGGGTA TCATTTTCT TTAAGAGTCA TTTATCAATT 50  
TTCTTC 56

(2) INFORMATION FOR SEQ-ID-NO:14:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 170 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: cDNA

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: NO

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Homo sapiens

(vii) IMMEDIATE SOURCE:

(B) CLONE: alzas2

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:14:

ATGTGGGTTC AAACAAAGGT GCAATCATTG GACTCATGGT GGGCGGTGTT 50  
 GTCATAGCGA CAGTGATCGT CATCACCTTG GTGATGCTGA AGAAGAAACA 100  
 GTACACATCC ATTCATCATG GTGTGGTGGG GGTAGGTAAA CTTGACTGCA 150  
 TGTTTCCAAG TGGGAATTAA 170

(2) INFORMATION FOR SEQ ID NO:15:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 44 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(iii) HYPOTHETICAL: NO

(vi) ORIGINAL SOURCE:

(A) ORGANISM: Homo sapiens

(vii) IMMEDIATE SOURCE:

(B) CLONE: ALZAS4

(xi) SEQUENCE DESCRIPTION SEQ ID NO:15:

Met Val Gly GLy Val Val Ile Ala Thr Val Ile Val Ile Thr Leu  
           5                  10                  15

Val Met Leu Lys Lys Lys Gln Tyr Thr Ser Ile His His Gly Val  
           20                  25                  30

Val Glu Val Gly Lys Leu Asp Ser Trp Trp Ala Val Leu Ser  
           35                  40

(2) INFORMATION FOR SEQ ID NO:16:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 18 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: protein

## (iii) HYPOTHETICAL: NO

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: Homo sapiens

## (vii) IMMEDIATE SOURCE:

- (B) CLONE: ALZAS5

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:16:

Met Val Trp Gln Thr Lys Val Gln Ser Leu Asp Ser Trp Trp Ala  
                   5                  10                  15  
 Val Leu Ser

## (2) INFORMATION FOR SEQ ID NO:17:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 33 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: genomic DNA

## (iii) HYPOTHETICAL: NO

## (iv) ANTI-SENSE: YES

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: Homo sapiens

## (vii) IMMEDIATE SOURCE:

- (B) CLONE: PALZ9

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:17:

CCAAATAAAG AGCAAGAATA AAGCAACATT TCA

**(2) INFORMATION FOR SEQ ID NO:18:****(i) SEQUENCE CHARACTERISTICS:**

- (A) LENGTH:** 22 base pairs
- (B) TYPE:** nucleic acid
- (C) STRANDEDNESS:** single
- (D) TOPOLOGY:** linear

**(ii) MOLECULE TYPE:** genomic DNA

**(iii) HYPOTHETICAL:** NO

**(iv) ANTI-SENSE:** NO

**(vi) ORIGINAL SOURCE:**

**(A) ORGANISM:** Homo sapiens

**(vii) IMMEDIATE SOURCE:**

**CLONE:** PALZ10

**(xi) SEQUENCE DESCRIPTION: SEQ ID NO:18:**

TTATGCTTTA AAAAGCAATA CA

22

**(2) INFORMATION FOR SEQ ID NO:19:****(i) SEQUENCE CHARACTERISTICS:**

- (A) LENGTH:** 47 base pairs
- (B) TYPE:** nucleic acid
- (C) STRANDEDNESS:** single
- (D) TOPOLOGY:** linear

**(ii) MOLECULE TYPE:** genomic DNA

**(iii) HYPOTHETICAL:** NO

**(iv) ANTI-SENSE:** YES

**(vi) ORIGINAL SOURCE:**

**(A) ORGANISM:** HOMO SAPIENS

**(vii) IMMEDIATE SOURCE:**

**(B) CLONE:** PALZ11

**(xi) SEQUENCE DESCRIPTION: SEQ ID NO:19:**

(B) CLONE: PALZ13

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:21:

CTTTTATAT AACCTCATCC AAATGTCCCC TGCATTAA

39

(2) INFORMATION FOR SEQ ID NO:22:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 41 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: genomic DNA

(iii) HYPOTHETICAL: NO

(iv) ANTI-SENSE: YES

(vi) ORIGINAL SOURCE:

(A) ORGANISM: HOMO SAPIENS

(vii) IMMEDIATE SOURCE:

(B) CLONE: PALZ14

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:22:

GAAAATGAAA TTCTTCTAAT TCGGTTTATA AATTGTAATT A

41